

Montana
Comprehensive Assessment
System (MontCAS, Phase 2)
Criterion-Referenced Test (CRT)

COMMON CONSTRUCTED-RESPONSE ITEM RELEASE
MATHEMATICS, GRADE 4



OFFICE OF PUBLIC INSTRUCTION

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Mathematics

Session 1 (Calculator)

You may use a calculator during this session.

25. Marcus asked his friends what their favorite type of book is. This table shows what his friends said.

Friend	Favorite Type of Book
Greg	Biography
Erica	Fairy tales
Quentin	Fairy tales
Baxter	Sports stories
Alicia	Mystery
Marlo	Mystery
Marian	Fairy tales
Renata	Sports stories
Sasha	Sports stories
Abe	Biography
Daryl	Fairy tales
Hannah	Sports stories
Ricky	Mystery
Kelsey	Sports stories

- Make a tally chart to show the number of friends who chose each type of book.
- Make a pictograph showing the number of friends who chose each type of book. Use $X = 2$ friends. Be sure to
 - include the key,
 - include labels, and
 - title your pictograph.

Scoring Guide

Score	Description
4	7 points
3	6 points
2	4 or 5 points, or 3 points including points from both parts
1	1 to 3 points or minimal understanding of organizing data in a tally chart and/or creating a pictograph
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Training Notes

Part a: 2 points creates a tally chart that matches the table
OR
1 point creates a tally chart with no more than two minor counting errors

Part b: (maximum 5 points)

1 point appropriate title for the pictograph
AND
1 point correctly labels types of books
AND
1 point pictograph key that addresses all icons used in pictograph
AND
2 points pictograph columns with correct number of icons for each type of book to match the frequencies in the tally chart, using student key (or X = 2 if student does not provide a key) **or** the actual data if the tally chart is incomplete or missing
OR
1 point pictograph columns with correct number of icons for each type of book to match at least two of the frequencies in the tally chart using student key (or X = 2 if student does not provide a key) **or** the actual data if the tally chart is incomplete or missing
OR
uses one icon per friend correctly throughout (may not match student key)

Note: If student does not use X = 2 for key (and $\frac{1}{2}$ X = 1) student cannot get a 4 score. Otherwise do not penalize.

Sample Response

Part a

Biography	[2 tallies]
Fairy tales	[4 tallies]
Sport stories	[5 tallies]
Mystery	[3 tallies]

Favorite Types of Books

Part b

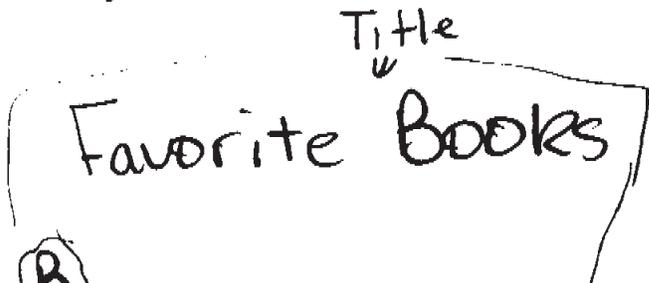
Biography	X
Fairy tales	X X
Sport stories	X X and $\frac{1}{2}$ X
Mystery	X and $\frac{1}{2}$ X

X = 2 students

25.

A. \Rightarrow Biography
 \downarrow II
 Mystery
 III

fairy tales IIII
 sport S. IIII



books

Biography	X								
fairy T.	X	X							
sports S.	X	X	/						
mystery	X	/							

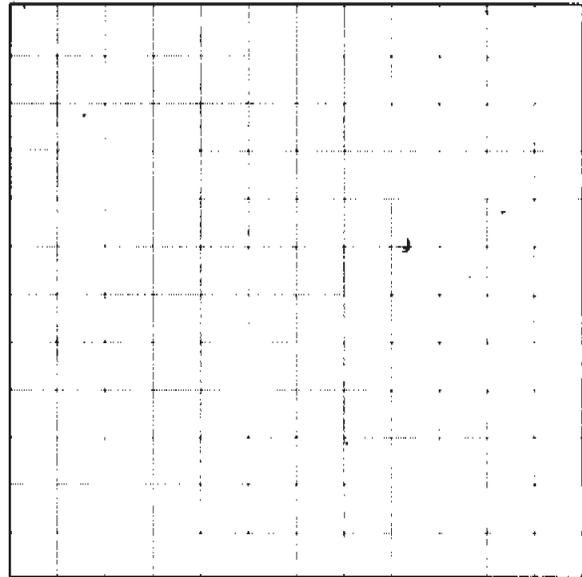
Key: X = 2 friends / = 1

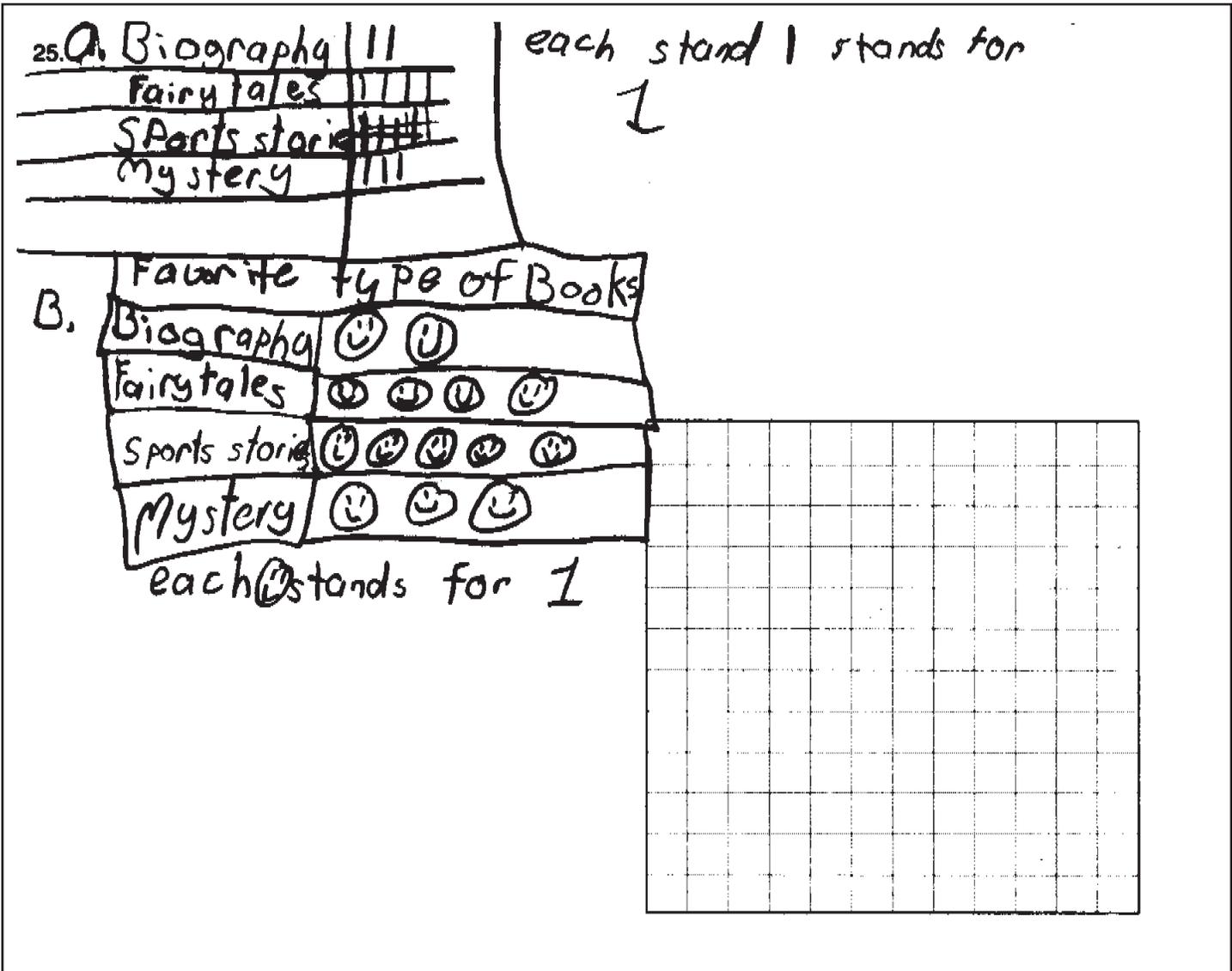
25.

(a) Biography ✓✓
 Fairy tales ✓✓✓✓
 Sports stories ✓✓✓✓
 Mystery ✓✓✓

(b)

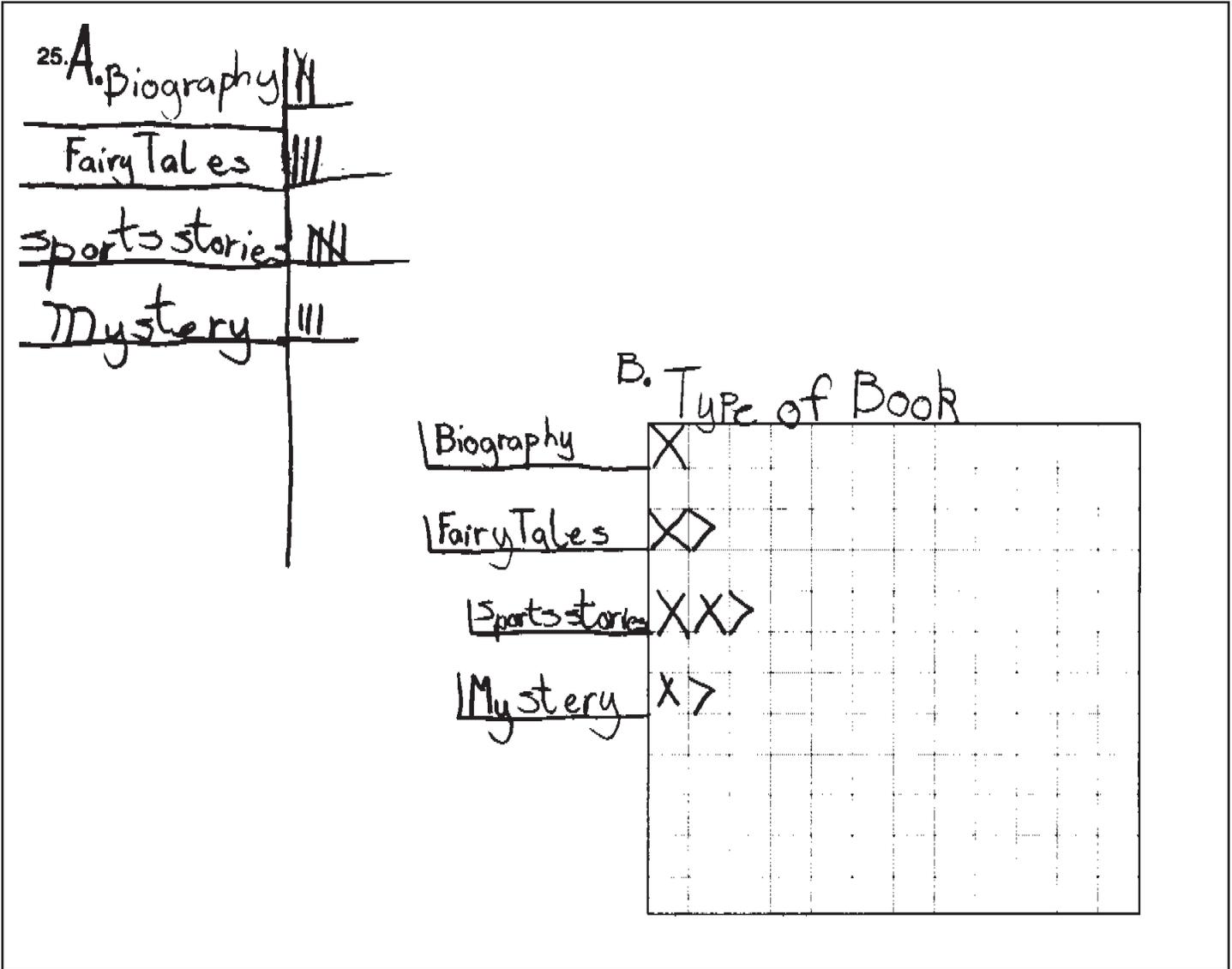
Types of books	Number of people who checked out the book
Biography	2
Fairy tales	4
Sports stories	4
Mystery	3
each * stands for 1 friend	





Score Point 2

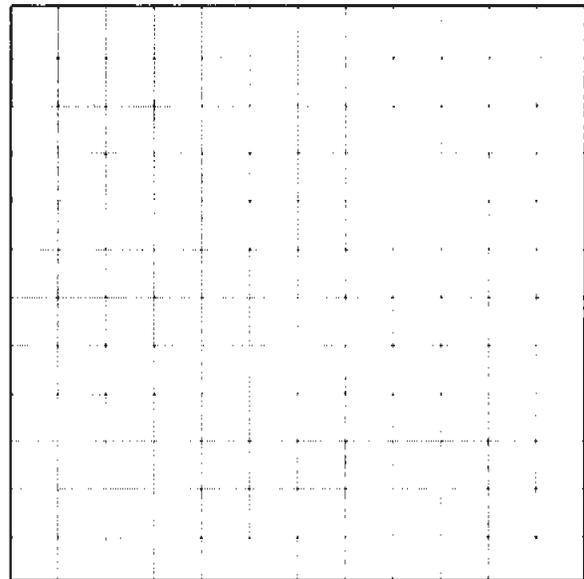
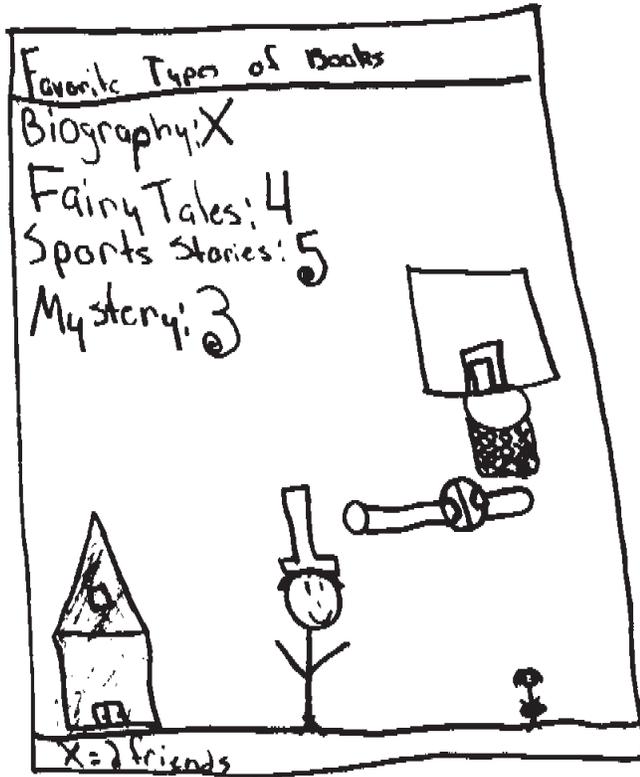
Sample 1



Score Point 2

Sample 2

25.a. Biography: ||
Fairy Tales: ||||
Sports Stories: ||||
Mystery: |||



Score Point 1

Sample 2

25. a)

Biography ||

Fairy tales |||

Spore stores |||

Mystery |||

b)

Biography	2
Fairy tales	4
Spore stores	5
Mystery	3

Mathematics

Session 3 (No Calculator)

You may NOT use a calculator during this session.

68. Toby and Jasmine are making cookies for a bake sale. They are going to put 12 cookies on each pan and bake 8 full pans of cookies.
- How many cookies will Toby and Jasmine bake? Show or explain how you know.
 - Toby and Jasmine plan on putting 3 cookies in each bag to sell. How many bags will they need for all of their cookies? Show or explain how you know.
 - They are going to sell the bags of cookies for 25¢ each. How much money will Toby and Jasmine make if they sell all of the bags of cookies? Show or explain how you know.

BE SURE TO LABEL YOUR RESPONSES (a), (b), AND (c).

Scoring Guide

Score	Description
4	6 points
3	5 points or 4 points with points from every part
2	2 to 4 points with points from more than one part
1	1 to 2 points or minimal understanding of solving multi-step problems
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Training Notes

- Part a:** 1 point correct answer (96)
AND
1 point explanation of strategy ($12 \times 8 = 96$ or equivalent)
- Part b:** 1 point correct answer (32)
AND
1 point explanation of strategy ($96 \div 3 = 32$ or equivalent)
- Part c:** 1 point correct answer (\$8.00)
AND
1 point explanation of strategy ($32 \times .25 = 8.00$ or equivalent)

Note: Scorers should read along with student. If student makes an error in a previous part and subsequent answers are correct based on earlier error, student should not be penalized again.

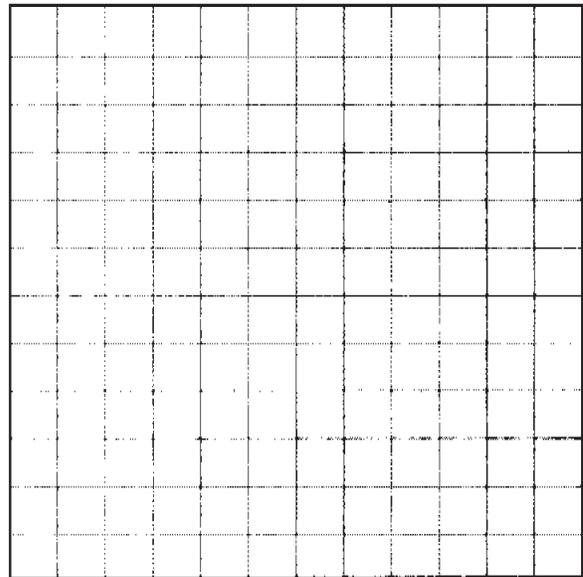
68.

$$\begin{array}{r} 12 \\ \times 8 \\ \hline 96 \end{array}$$
 a. cookies

b. 32 they
32 will
+ 32 need
96 32 rods

each = 1 = 125¢

|||| ~~||||~~ ~~||||~~ ~~||||~~
|||| ~~||||~~ ~~||||~~
~~||||~~ they will
C. make \$8.00



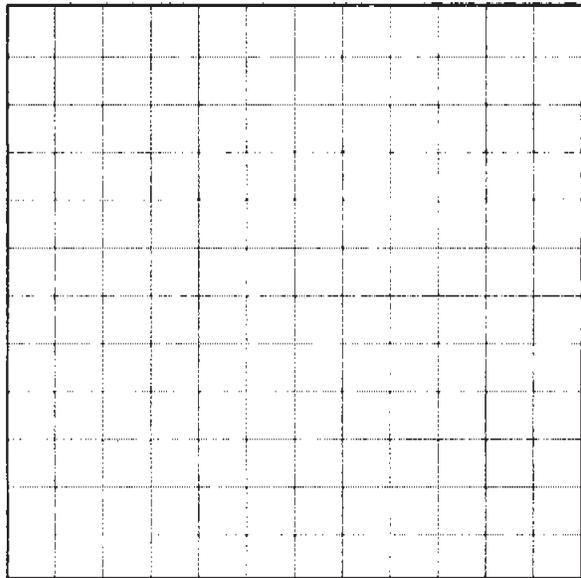
Score Point 3

Sample 1

$$\begin{array}{r} 68. \\ A. 12 \\ \times 8 \\ \hline 96 \end{array}$$

$$\begin{array}{r} B. 96 \\ \div 3 \\ \hline 32 \end{array}$$

$$\begin{array}{r} C. 132 \\ \times 25¢ \\ \hline 7,400 \end{array}$$



Score Point 3

Sample 2

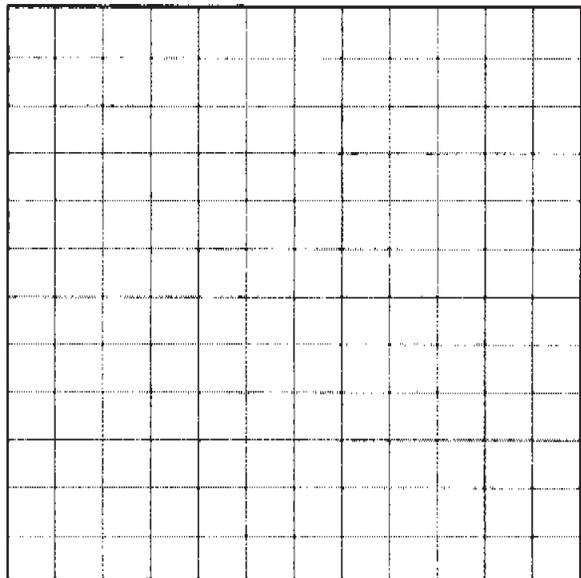
68.

$$\begin{array}{r} 1 \\ 12 \\ \times 8 \\ \hline 96 \end{array}$$

32 bags

$$\begin{array}{r} 32 \\ 3 \overline{) 96} \\ \underline{9} \\ 06 \\ \underline{6} \\ 0 \end{array}$$

$$\begin{array}{r} 32 \\ \times 25 \\ \hline 160 \\ \times 64 \\ \hline 800 \end{array}$$



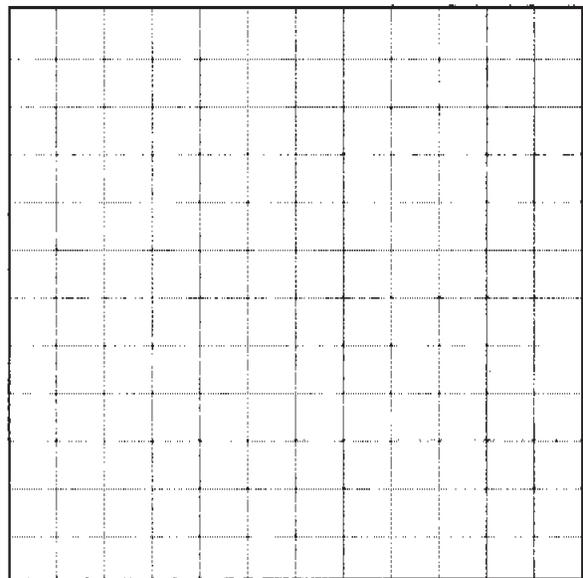
Score Point 2

Sample 1

^{68.a}
a. They will bake 96 cookies $12 \times 8 = 96$.

b. They need 288 days $3 \times 96 = 288$

c. They will make \$72.00 $288 \times 25 = 7200$



Score Point 2

Sample 2

68.

(A) $12 \times 8 = 26$

(B) They will need 10 bags

(C) $25d$
 $\times 10$

 $250d$

Score Point 1

Sample 1

68.

$$\begin{array}{r} 12 \\ + 8 \\ \hline 20 \end{array}$$

A

a. They will bake 20 cookies you take $12+8=20$.

$$\begin{array}{r} 20 \\ \times 3 \\ \hline 60 \end{array}$$

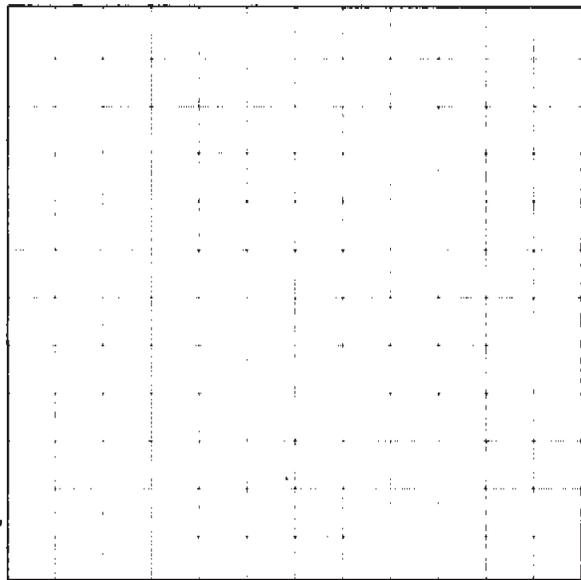
B.

b. They need 60 bags you take
 $20 \times 3 = 60$.

$$\begin{array}{r} 60 \\ \times 25 \\ \hline 300 \\ 1200 \\ \hline \$15.00 \end{array}$$

C.

c. They will get \$15.00 you
take $60 \times 25 = 1500$ you
put decimal sign and
dollar sign.



Score Point 1

Sample 2

68.

A. ninety six cookies

B. three divided by eight, two with the remainder of two

C. times 50 times 25 equals three dollars

